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ABSTRACT

Semantic mapping, which involves the application of vocabulary meanings, increases cognitive processing, and develops the cognitive structure, is recommended for use with literacy students in adult learning centers. Semantic mapping can be used as a prereading or prewriting stimulus, or as a postreading check of comprehension. Also, developing postreading maps helps motivate literacy students, since these maps are a graphic illustration of how much the reader has learned from the text. As a prewriting activity, semantic mapping obliges students to brainstorm and organize their thoughts before writing. Most importantly, semantic mapping is highly motivating for adult students because it allows them to interact with teachers regarding the context of the lesson, rather than merely on a specific point of skill development. The ultimate goal of semantic mapping is to introduce the students to a technique that they can use regularly to organize what they have read, relate this content to what they already know, and expand their store of knowledge through reading. Semantic mapping was used effectively at the Marion County Adult Learning Center (West Virginia) as a prereading, postreading, and prewriting activity with a group of students, all of whom read at less than the sixth-grade level. (Seven references and a student-developed semantic map are attached.) (ARH)

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Semantic Mapping in the Adult Learning Center

Paper presented at the International Reading Association Annual Meeting in Toronto, Canada, May 6, 1988.

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Abstract

As semantic mapping involves the application of vocabulary meanings, increases cognitive processing, and develops the cognitive structure, the paper advocates its use with literacy students in adult learning centers. Semantic mapping can be used as a prereading or prewriting stimulus. It can also be used as a postreading check of comprehension. Developing prereading semantic maps helps the reader to relate the information which he already possesses to the new information which he will encounter while reading. Developing prewriting maps motivates writers since they brainstorm about the topic before writing. Developing prewriting maps also helps the writer organize the topic before actually writing. The development of postreading maps helps the reader understand and organize the new information which was acquired during reading. Also, developing postreading maps is extremely motivating to literacy students since these maps are a graphic illustration of how much the reader learned from the text reading.

An example of a map developed by adult literacy students in a federally funded project is included.

In the adult learning center semantic mapping can be used as a method of teaching vocabulary. (Johnson, Pittelman, Heimlich, 1986; Heimlich and Pittelman, 1986). It can also be utilized as a method for increasing reading comprehension and for stimulating student writing (Heimlich and Pittelman, 1986). Semantic mapping is a graphic representation of a concept and of various categories which relate to that concept (Johnson, Pittelman, and Heimlich, 1986). In order to develop a semantic map, a vocabulary term, central to the reading lesson, is chosen. Then students brainstorm, thinking of words which have some relationship to the term. Finally, students look at the words which they have brainstormed, appropriately group words together, and give a categorical title to each group.

Semantic mapping is a useful teaching procedure for a number of reasons. First, it involves application. Students must actually take the vocabulary term which is being discussed and use their knowledge of the term to come up with other terms which relate to it. Second, it involves cognitive processing (Stahl and Vancil, 1986). Students, while they are considering the vocabulary term, must draw from their cognitive structure terms which in some manner relate to the term which is being discussed. They must have at least a rudimentary knowledge of the relationship between the term under discussion and the term which they suggest. This type of processing as students deal with new vocabulary is effective in relating new knowledge to old

knowledge. As Thelen (1986) has pointed out, learning becomes meaningful when students relate new knowledge to old knowledge. Third, and perhaps most important, semantic mapping actually develops the student's cognitive structure. As students develop a semantic map, the concept represented by the vocabulary term which they are considering is solidified. Students develop within their cognitive structure pathways which relate their term to terms which they already possess (Stahl and Vancil, 1986). After the semantic mapping is completed, students should know, in a hierarchical sense, which terms lie under the chosen concept and which terms it lies under.

As part of the reading lesson, semantic mapping has various uses. First, as semantic mapping involves application and synthesis of new vocabulary, this procedure does actually increase a student's vocabulary, and it is a aphorism that students with highly developed vocabularies are better readers. Students with well-developed vocabularies are likely at the literal, inferential, and critical levels to comprehend whatever they are reading (Ruddell, 1986). As a prereading activity this procedure serves as a type of advance organizer. A semantic map is an advance organizer in that it gives an overview of a particular aspect of the topic of the reading lesson, and it activates students' previous knowledge of the topic (Heimlich and Pittelman, 1986). As a postreading activity, semantic mapping serves as a check of the student's comprehension. If both a prereading map

and a postreading map are developed, then the mapping process can become very motivating. A postreading map, compared to a prereading map, can give students a graphic illustration of how much knowledge they have acquired from the reading lesson.

Semantic mapping can serve as a stimulus to writing. There are several explanations as to why semantic mapping is stimulating to writing. First of all, as it causes the student to brainstorm about the relationship of terms to each other, the student is becoming actively involved in the writing process. Second, as the semantic map is a graphic organization of the topic, then the student has an organized approach to the topic even before beginning to write. Looking at a semantic map, a student can visualize the unity of the written assignment. Using the map, the student can develop the topic sentence or thesis statement and also the supporting data for the topic sentence or thesis statement.

Semantic mapping is a particularly useful procedure for adult students (Heimlich and Pittelman, 1986). Often, because students are functioning at various reading levels, they work in isolation in the adult learning centers. There is no interaction among students and very little interaction between students and teacher. Often their reading lessons consist of computer-assisted instruction where responses to questions are rewarded with music or self-checking texts where students check their own responses and call for the teacher's help as needed. This sort of reading

instruction develops very discrete knowledge and linear skills. However, since students rarely interact with others in relation to the context of their lessons, students may not engage in active processing relative to the context. In other words, they may not attempt to relate the new information to information which they already possess, and they may not attempt to apply the information. As discussed above, developing semantic maps requires that students relate new information to old information. This process also requires that students apply new information, a way to develop the cognitive structure. If within the adult learning center there is only one student functioning at a particular reading level, the teacher and student can together develop maps; it is not necessarily an activity which requires a group.

Semantic mapping is particularly useful as a prewriting stimulus for adult education students. Traditionally students in adult learning centers have been more concerned with developing reading skills and less concerned with developing writing skills. However, adult learning centers, with the advent of the essay section of the GED tests, are now very concerned with teaching students to produce coherent writing. Semantic mapping is an extremely useful tool for this purpose. With a semantic map a student has organized the aspects of the topic before beginning to write. When one looks at a map, it is readily apparent which aspects are dominant and which are supportive. Also, since

students brainstorm before writing, they feel that they have much to put on a page by the time they actually begin writing.

Perhaps, most important of all, this procedure is very motivating to adult students (Hagen, 1980). As these students often work individually, rather than in groups, and as they often are not familiar with goal achievement, they may lose interest in the reading lessons which are presented by their computer software or their self-checking texts. However, the semantic mapping procedure allows them to interact with teachers over the context of the lesson, rather than merely on a specific point of skill development. This sort of interaction involves exchange of knowledge and is highly motivating. Also, as students develop prereading and postreading maps, they are motivated to develop more comprehensive maps in the post-mapping stage than they developed in the pre-mapping stage. Developing more comprehensive maps serves as a graphic illustration to students that they have actually acquired knowledge from their reading. This is highly motivating, and it gives the students a great sense of accomplishment to recognize how much knowledge they have acquired and how much better they understand a concept as a result of reading one lesson.

At the Marion County Adult Learning Center semantic mapping has been used as a prereading, postreading, and prewriting activity with a group of students; all of whom read at less than the sixth-grade level. The project itself was funded through a

federal grant. The students read selections from the Mott Reading Series. Prior to reading a selection, we chose a vocabulary term, either from the selection's title or from the list of new words which appeared at the beginning of the selection. Then we brainstormed, thinking of words which associated with the chosen term. Next we developed prereading maps, establishing categories relative to the term under scrutiny. After reading the selection, students did develop postreading maps, attempting to expand and make more comprehensive their prereading ones. The maps were, at times, used as a prewriting stimulus. On these occasions the maps did serve as a jog to the students' writing processes as well as organizational tools for the final piece of writing.

For example, the students read a selection about salt mining under Detroit. One student independently developed a map using salt as the central element and showing the uses and sources of salt. However, the group decided to develop a map using mining as the central element since salt is mined in Detroit. They then indicated on the map the various types of mining and the products which come from each type. After reading the selection and developing a postreading map, the students wrote about the types of mining, using each type as the topic of a paragraph of their papers.

On another occasion the students read a selection about the Old West. As a post-reading map, the students mapped the concept Covered Wagon. Figure 1 shows the original statement of the

concept. Figure 2 shows the students' brainstorming of all the terms which they knew that related to Covered Wagon. Figure 3 shows their mapping of that concept and their development of four categories which their list of terms could be divided into.

As Heimlich and Pittelman (1986) point out, the ultimate goal of semantic mapping would be to introduce the students to a technique that they could use regularly to organize what they have read. We, as teachers, should hope that this graphic organization of information would encourage students to view the content of all their reading assignments as something which they could organize in relation to what they already know and ultimately to expand their store of knowledge through reading.

Figure 1

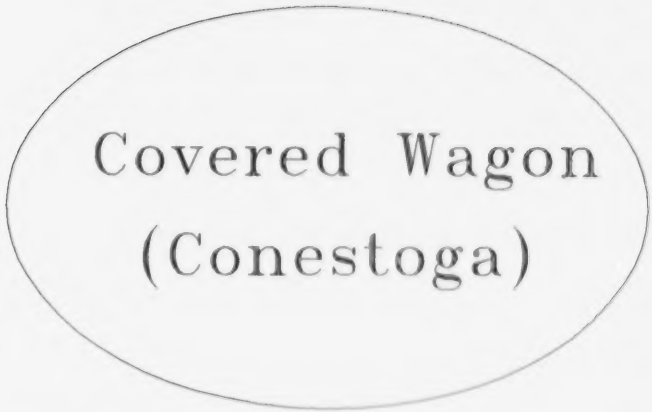
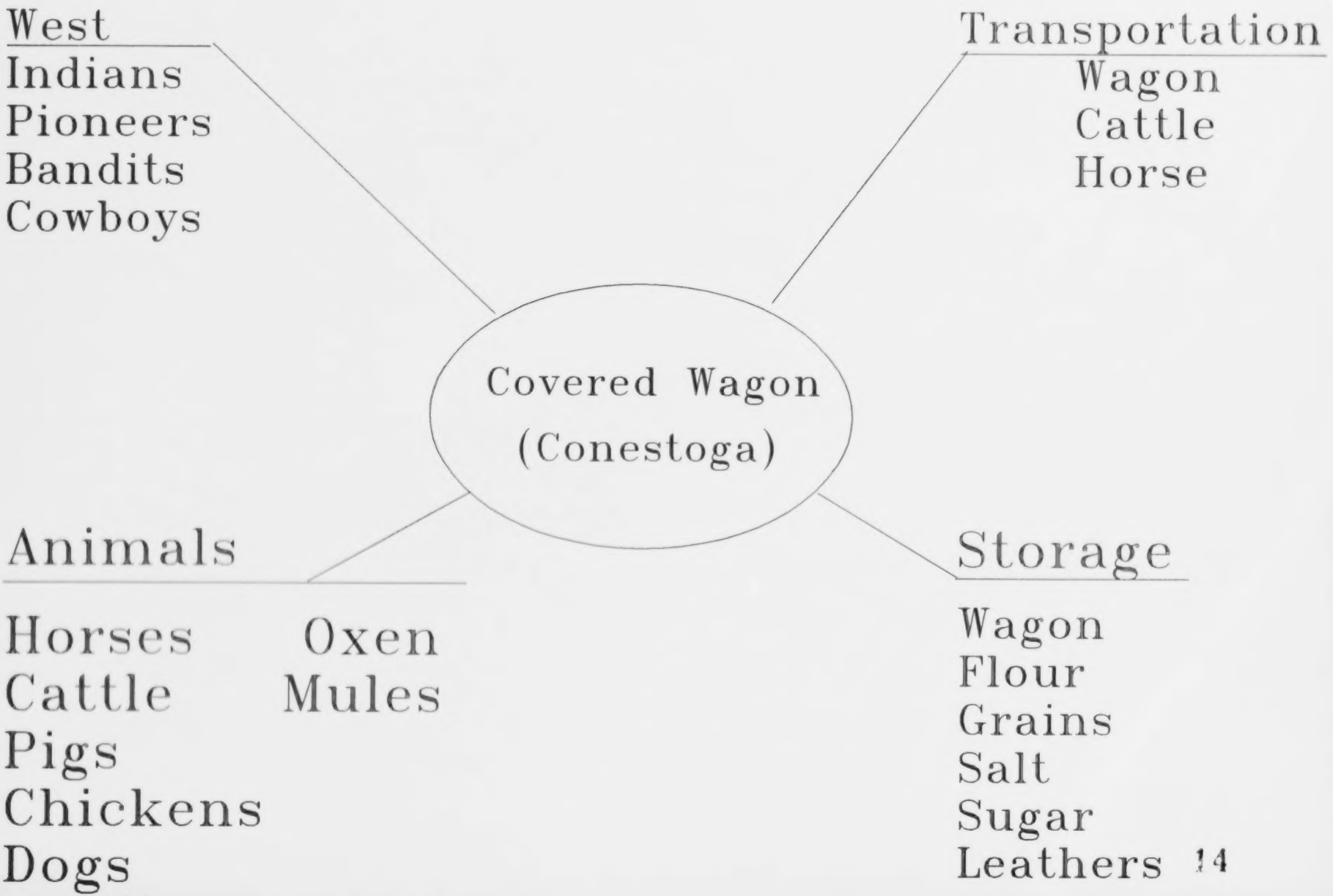


Figure 2

Covered Wagon

Cattle
Horses
Indians
Chickens
Dogs
Oxen
Mules
Bandits
Salt
Flour
Cowboys
Pigs
Pioneers
Sugar
Leather

Figure 3


West
Indians
Pioneers
Bandits
Cowboys
Transportation
Wagon
Cattle
Horse
Covered Wagon
(Conestoga)
Animals
Horses
Oxen
Cattle
Mules
Pigs
Chickens
Dogs
Storage
Wagon
Flour
Grains
Salt
Sugar
Leathers

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